Defense Information Systems Agency

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Commercial SATCOM Update

April 2009

READY ~ RELIABLE ~ RELEVANT

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Agenda

- DoD Commercial SATCOM Provisioning Process
- COMSATCOM Usage
- NC FCB Capabilities
- On-Going Initiatives
- Future Considerations

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DoD Commercial SATCOM Provisioning Process

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DoD COMSATCOM Policy

- **Chairman of the Joint Chiefs of Staff Instruction, CJCSI 6250.01C**
  - ***"Director, DISA…acquires all COMSATCOM resources, unless DOD Chief Information Officer (CIO) has granted a waiver to requesting organization…"***
  - ***"Director, DISA…Serves as SATCOM System Expert (SSE) for designated USSTRATCOM assigned systems, providing technical, sustainment, and operational support to the SATCOM Operational Manager (SOM)…***

SATCOM PMO Delivers Operationally Responsive, Customer-Focused, and Cost-Effective Commercial SATCOM Services That Enable the Joint Warfighter

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Task Orders and the SDB

- **CJCSI 6250.01C requires all user requirements for SATCOM service be recorded in the Satellite Data Base (SDB)**
  - **Ensure efficient use of capabilities**
  - **Identify utilization for future planning purposes**
- **19 Dec 08 OASD/NII memo identified lack of accountability of leased COMSATCOM**
  - **COMSATCOM Task Orders to DISA need SDB identification or Joint Staff approved waiver**
  - **Otherwise returned to Customer for action**

DoD COMSATCOM Business Model

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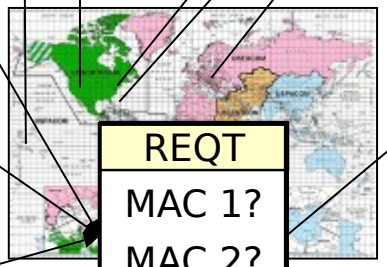
PMO SATCOM

DITCO

DISA HQ
RSSC PAC
GSSC
RSSC CONUS
RSSC EUR



REQT
MAC 1?
MAC 2?
MAC 3?

TSR
SOW
SOO
RFP

Contra ct Vehicle

Evaluation

12 / DoDD 8581.1E Evaluation, DAA Waivers

esolve Unintentional and Purposeful Interference

Cost
Technical Security Performanc e
Best Value

Service
GSSC Suppor t

Trouble Ticketing/ Problem Resolution

Customer Requirement	Appropriate Security	Specifying and Contracting For a Solution	Evaluation, DAA Review, and Service Award	Post Award Support
• *User inquiries* • *Requirements definition*	• *MAC designation assistance*	• *Develop IGCEs* • *Develop J&As* • *Develop SOW/SOO/PWS* • *Prepare TSR* • *Prepare RFPs*	• *Evaluate proposals* • *Evaluate IA compliance* • *Obtain user and DAA approvals* • *Track protection*	• *RFI resolution* • *Outage support* • *Billing assistance* • *Service planning* • *Reports*

DISA Provides COMSATCOM Life Cycle Warfighter Support

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Major Commercial SATCOM Contracts

- **DSTS-G (SATCOM PMO)**
  - **Provides global Fixed Satellite Service (FSS) - bandwidth, terminals, and terrestrial connectivity**
- **Inmarsat (SATCOM PMO)**
  - **Provides Inmarsat Mobile Satellite Service (MSS) - subscription services (satellite and equipment)**
- **SATCOM II (GSA)**
  - **Provides global FSS bandwidth, MSS subscription services, terminals, and professional support services**

Service Delivered Via Most Appropriate Contract Vehicle

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Customer Support

- **Customer Account Manager (CAMs)**
  - **Provides 24/7 customer support in development and submission of new requirements or changes for existing service**
  - **Provides crisis response / support to DoD and National contingencies and emergencies**
- **Global SATCOM Support Center (GSSC)**
  - **Supports DoD, White House Communications Agency, Defense Agencies, National Users, and other users not assigned to an RSSC**
  - **Supports NORTHCOM/NORAD, TRANSCOM, STRATCOM, Joint Chiefs of Staff**
- **Regional SATCOM Support Centers (RSSCs)**
  - **RSSC Pacific – PACOM**
  - **RSSC CONUS – CENTCOM, JFCOM, SOCOM, SOUTHCOM**

Designated CAM assigned to each COCOM

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Independent Government Cost Estimates

- **Independent Government Cost Estimates (IGCEs) are official cost estimates used in the provisioning process for COMSATCOM services**
  - **Customer uses the IGCE as a cost estimate for services required**
  - **DITCO uses the IGCE to evaluate whether offerors' cost proposals are fair, reasonable and competitive**
- **The Link Budget is important component of the IGCE**
  - **Based on customer requirements, an engineering services advisor determines the estimated satellite bandwidth resources required to meet the need from a range of commercially available satellite sources**
    - **Used to calculate likely costs for alternative satellite(s)**

Provisioning Process
New Service Request

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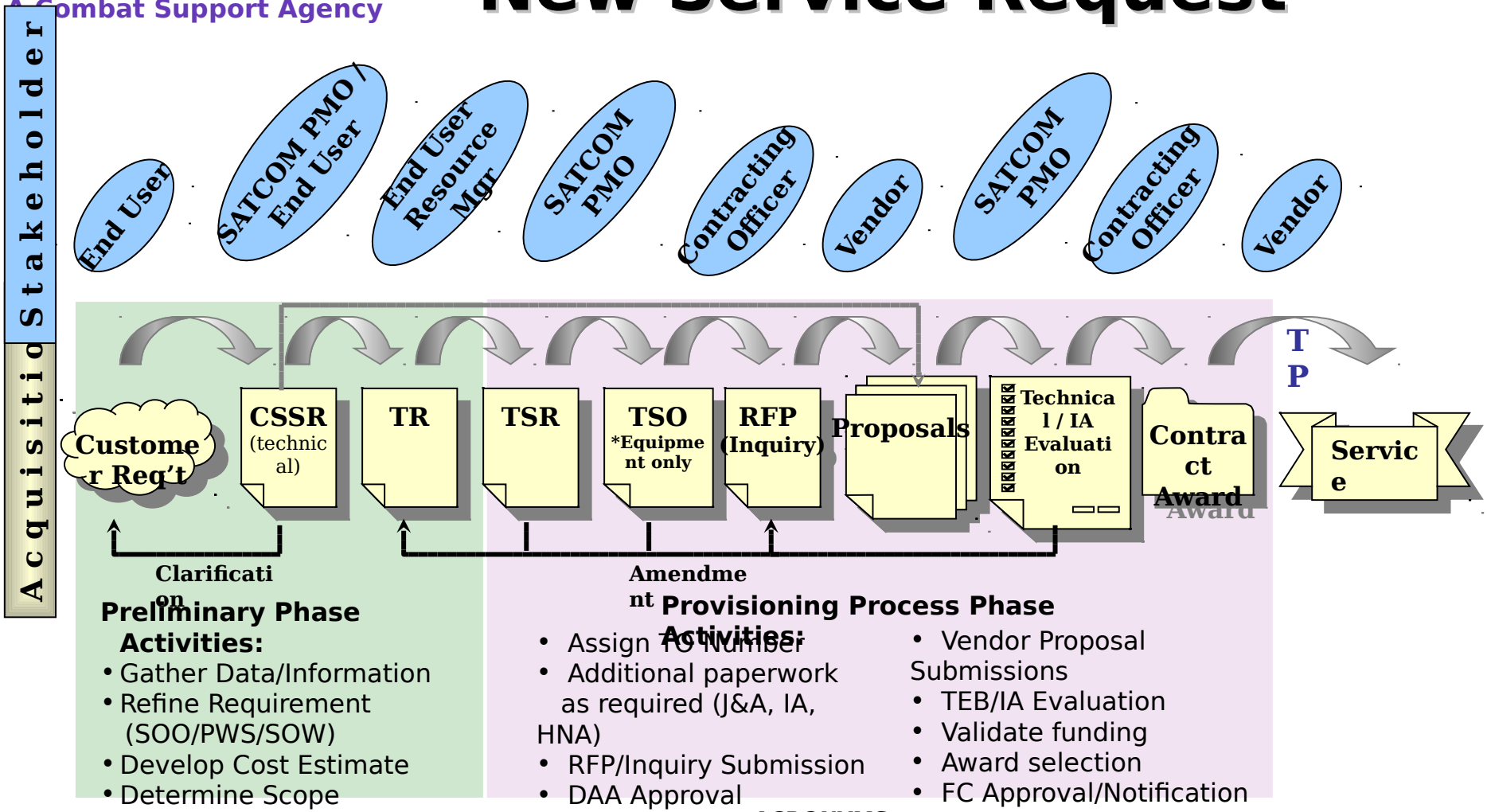

ACRONYMS

CSSR: Commercial Satellite Service Request
HNA: Host Nation Agreement
IA: Information Assurance
J&A: Justification & Approval
PWS: Performance Work Statement
RFP: Request for Proposals
SOO: Statement of Objectives
SOW: Statement of Work
TR: Telecommunications Request
TEB: Technical Evaluation Board
FC: Funding Certification
TSO: Telecommunications Service Order
TSR: Telecommunications Service Request
TP: Transmission Plan
TO: Task Order

Provisioning Process
Continuing Service

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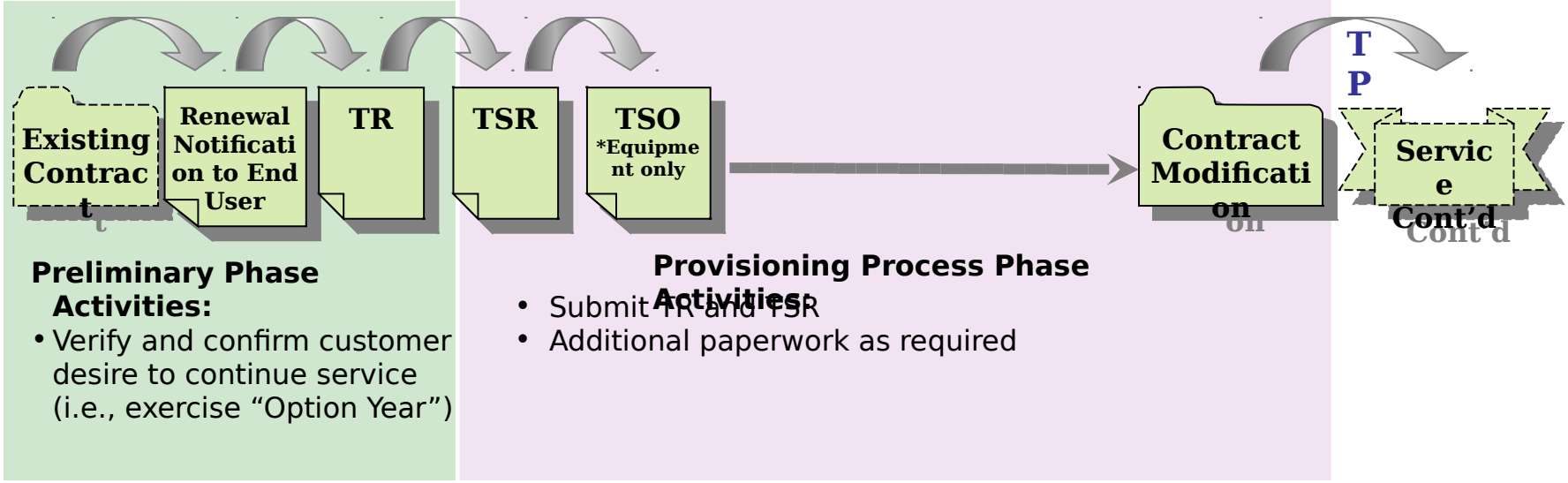
Stakeholder

End User | SATCOM PMO / End User | End User Resource Mgr | SATCOM PMO | Contracting Officer | Vendor | Contracting Officer | Vendor

Renewal



Preliminary Phase Activities:

- Verify and confirm customer desire to continue service (i.e., exercise "Option Year")

Provisioning Process Phase Activities:

- Submit TR and TSR
- Additional paperwork as required

ACRONYMS

TP: Transmission Plan
TR: Telecommunications Request
TSO: Telecommunications Service Order
TSR: Telecommunications Service Request

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Post Award Support

- Mission Planning
- Constellation Loading
- Network Utilization and Optimization
- International Partner Coordination
- RSSC and GSSC Activities Coordination
- Anomaly/Electromagnetic Interference Resolution

GSSC provides 24/7 Commercial SATCOM Operational Support and Situational Awareness

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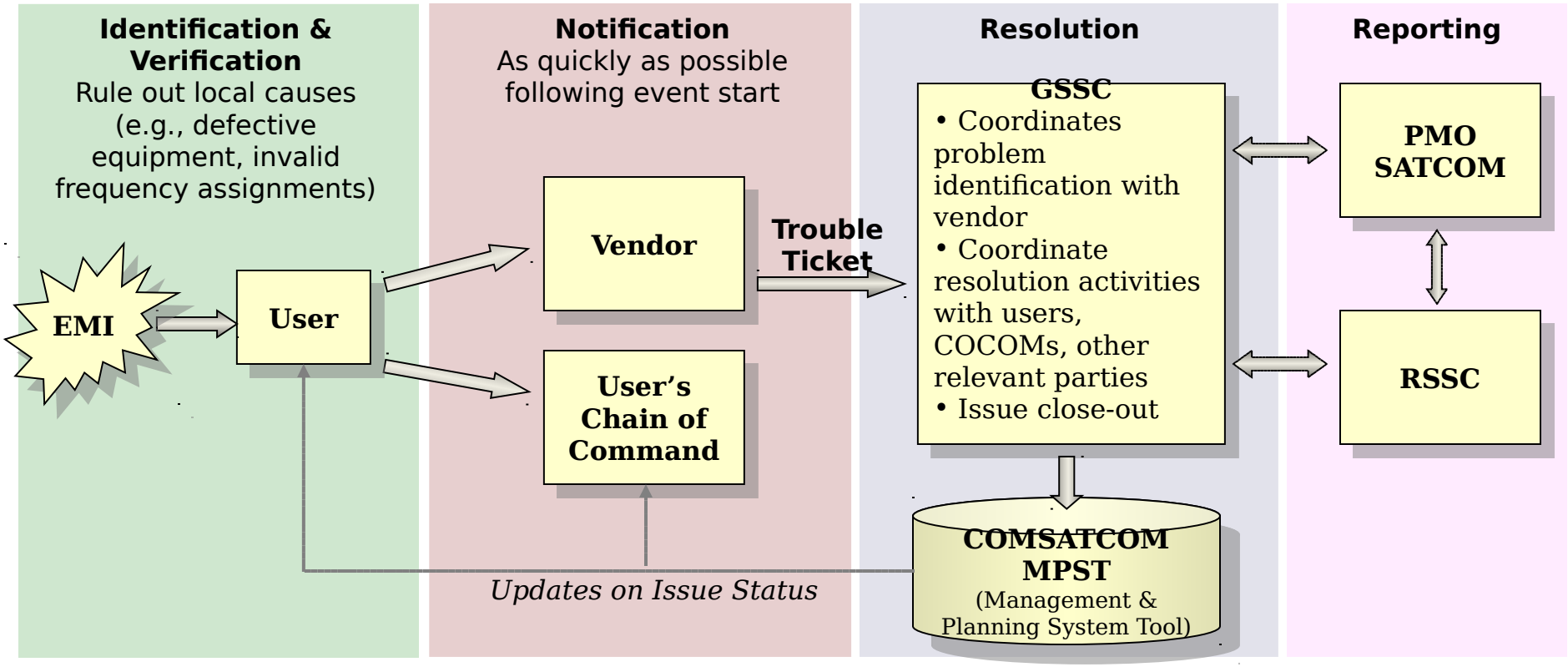
COMSATCOM Electromagnetic Interference (EMI) Resolution Process

Scenario 1: User experiences interference signal



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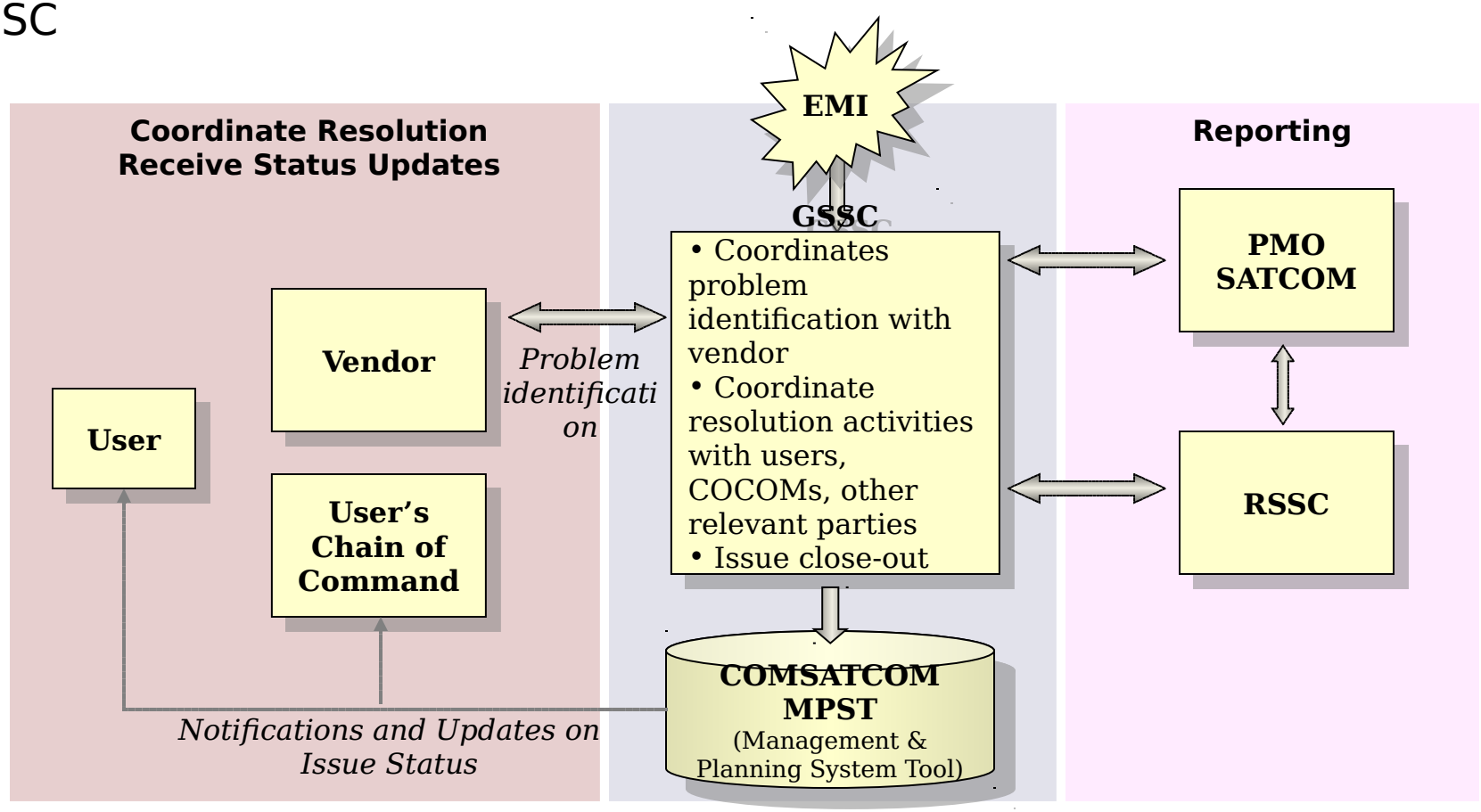
COMSATCOM Electromagnetic Interference (EMI) Resolution Process

Scenario 2: Anomaly first comes to the attention of GSSC



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Operational Oversight

- Ensures DSTS-G vendor meets lease requirements
- Assists in the restoration of bandwidth
- Single focal point for warfighter assistance when experiencing issues with their lease
  - Bandwidth
  - Terminal
  - Space Segment
  - Teleport
  - GIG Services
- Reviews all DSTS-G vendor reports; assists Warfighters in recovery of funds when contractual obligations are not fulfilled
- Focal point for providing global situational

Ensures Warfighters Get What They're Paying For

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DoD Commercial SATCOM Usage Update

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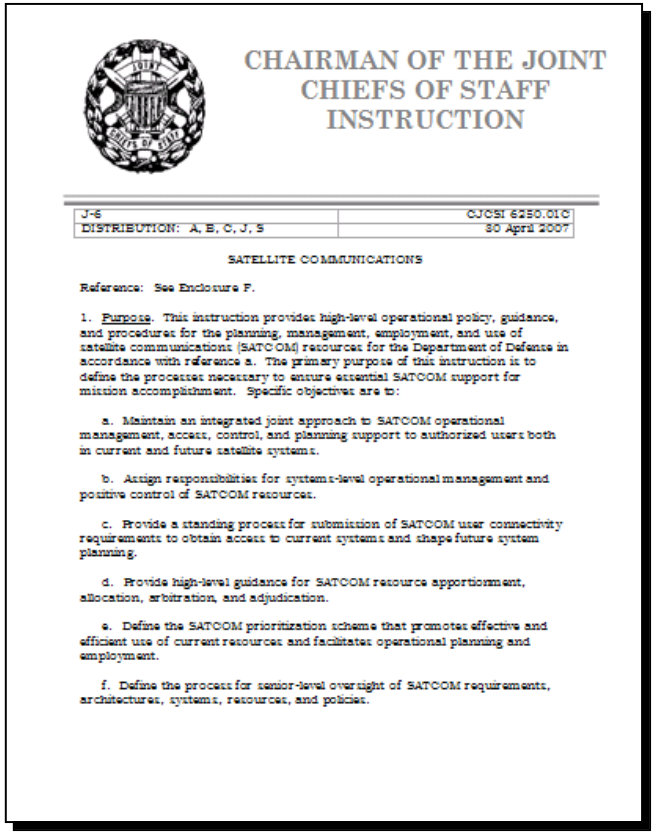
Annual Usage Report Background

- **CJCSI 6250.01C directs STRATCOM to work with DISA to annually execute a DoD annual COMSATCOM usage analysis (including spend analysis)**
  - **Spend analysis is recognized in the commercial sector as a "best-practice" cost control tool**
- **Various stakeholders have significant interest in the annual report**
  - **Joint Staff J6**
  - **DoD EA for Space**
  - **ASD(NII)**
  - **Military Communications-Electronics Board**
  - **Congress/GAO**
  - **Satellite Industry**



CHAIRMAN OF THE JOINT CHIEFS OF STAFF INSTRUCTION

J-6	CJCSI 6250.01C
DISTRIBUTION: A, B, C, J, S	30 April 2007

SATELLITE COMMUNICATIONS

Reference: See Enclosure F.

1. Purpose. This instruction provides high-level operational policy, guidance, and procedures for the planning, management, employment, and use of satellite communications (SATCOM) resources for the Department of Defense in accordance with reference a. The primary purpose of this instruction is to define the processes necessary to ensure essential SATCOM support for mission accomplishment. Specific objectives are to:

a. Maintain an integrated joint approach to SATCOM operational management, access, control, and planning support to authorized users both in current and future satellite systems.

b. Assign responsibilities for systems-level operational management and positive control of SATCOM resources.

c. Provide a standing process for submission of SATCOM user connectivity requirements to obtain access to current systems and shape future system planning.

d. Provide high-level guidance for SATCOM resource apportionment, allocation, arbitration, and adjudication.

e. Define the SATCOM prioritization scheme that promotes effective and efficient use of current resources and facilitates operational planning and employment.

f. Define the process for senior-level oversight of SATCOM requirements, architectures, systems, resources, and policies.

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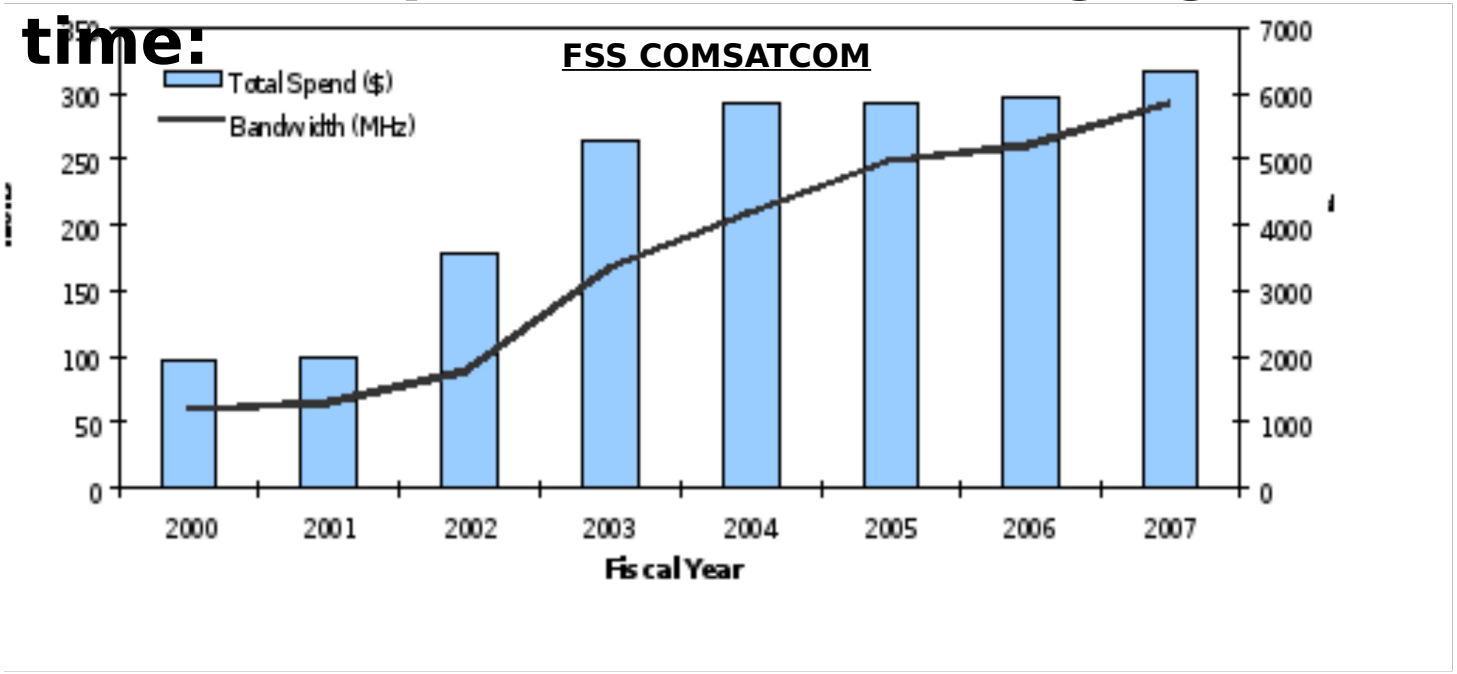
Expenditures & Usage

The Annual COMSATCOM Usage Report allows DoD to track expenditure and usage growth over time:



- **Fixed Satellite Service expenditures increased 14.3 percent in FY07, exceeding $338M**
- **Bandwidth usage increased 11 percent in FY2007, to 6.2 Gigahertz**

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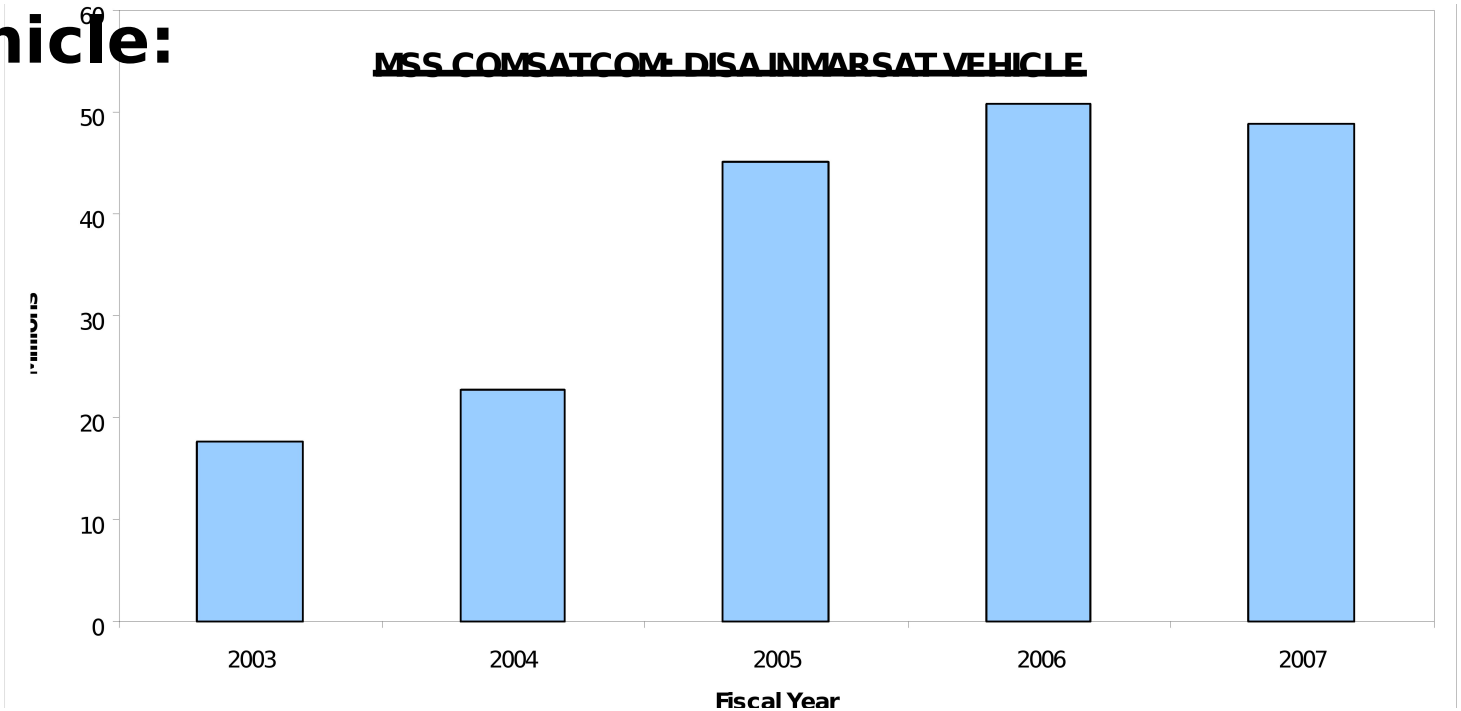
Expenditures & Usage

DoD separately tracks expenditure and usage growth over time on the DISA INMARSAT Vehicle:



- **Mobile Satellite Service expenditures reached nearly $49M in FY07**
- **Estimated number of airtime minutes for FY07 was 6.4 million**

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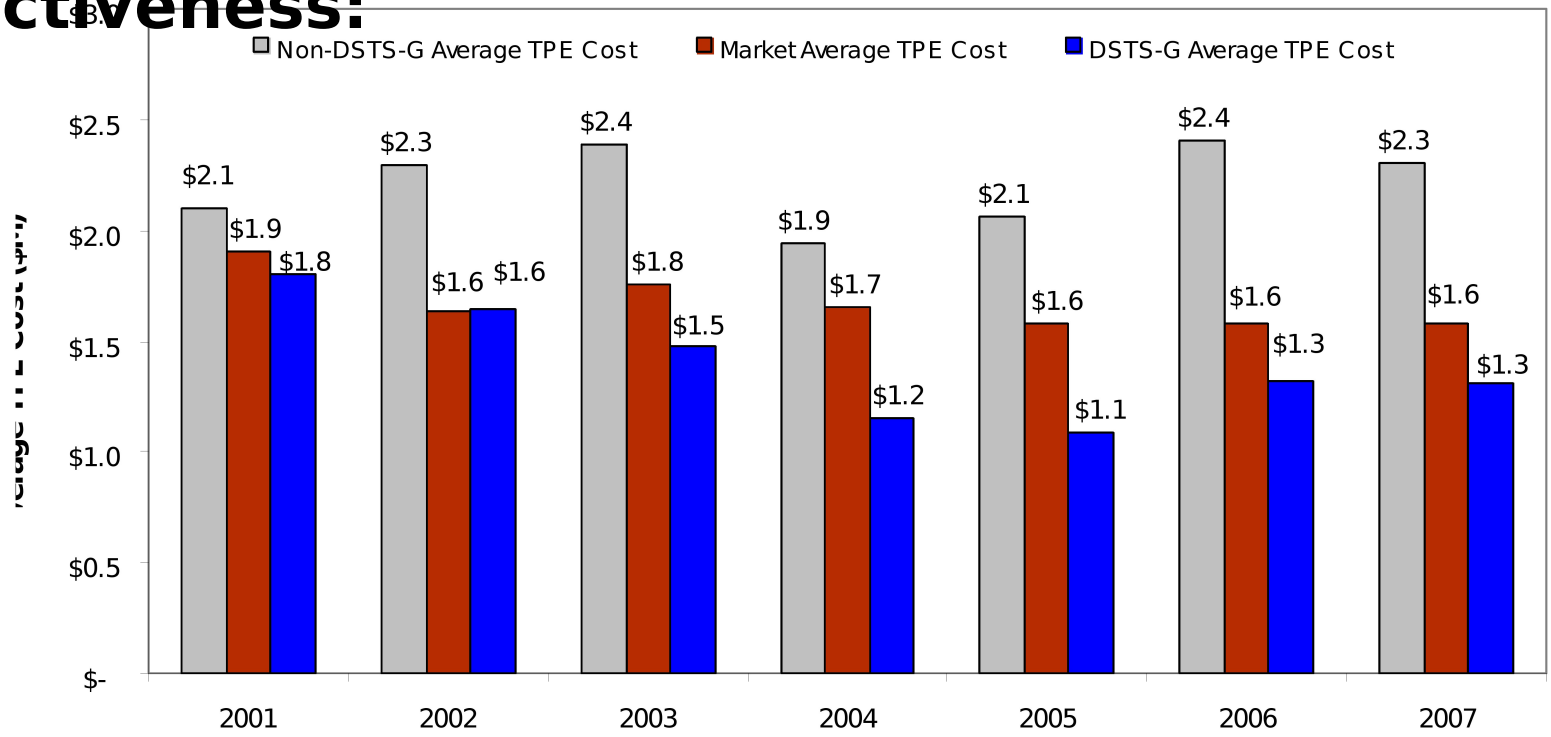
Transponder Equivalent Pricing

Report also compares contract pricing effectiveness:



- **DSTS-G continues to be cost-effective, driven mainly by task order**
- **Ku Band accounts for 85 percent of bandwidth used by DoD**

TPE = One 36-MHz Transponder leased for 1 yea

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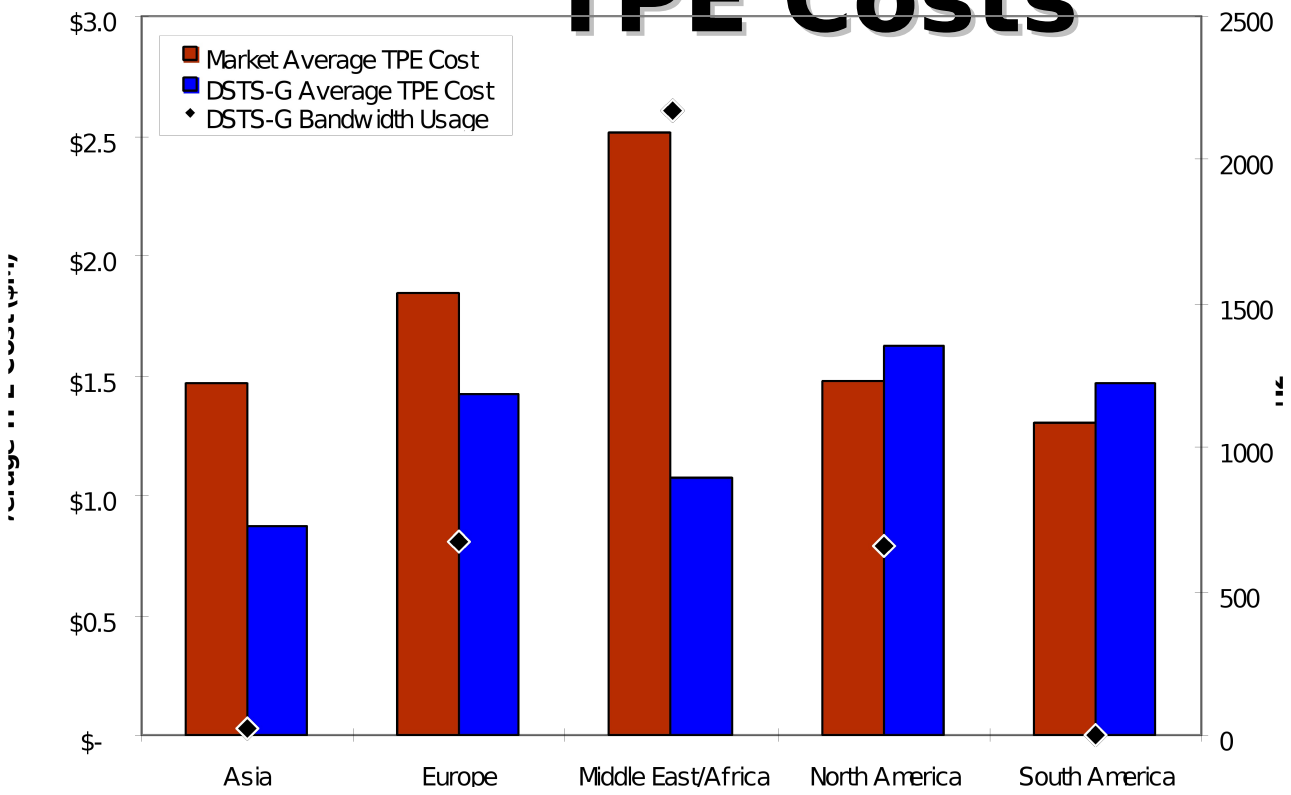
Regional Ku-band DSTS-G TPE Costs



- **Generally, the more we buy in a region, the better price we pay**
- **Middle East and North America are capacity constrained**
- **TPE prices increased 9 percent in Middle East and North Americ**

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Impacts of Increasing Demand

- Recent (2nd half FY08) service requests highlight fact DoD is competing for scarce COMSATCOM bandwidth
  - Especially in North America and CENTCOM regions
- Serviced CENTCOM Task Order prices trending up
- Some recent Southwest Asia and CENTCOM region Task Order not serviced
  - e.g., Requests to support AISR, Inter-Theater Communications

Warfighting Options Constrained by Available Bandwidth

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DoD Commercial SATCOM
NC FCB Capabilities Update

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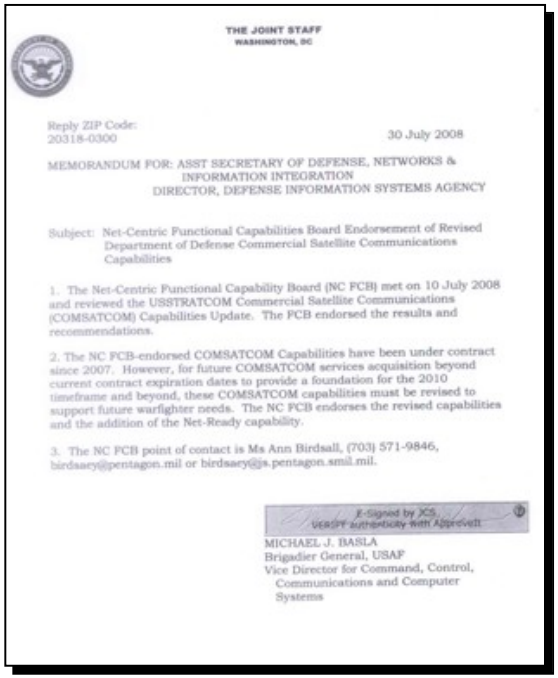
NC FCB Capabilities Update

- In July 2008, the NC FCB formally endorsed the updated capabilities for COMSATCOM
  - "Floors" – capabilities applicable to all DoD-leased services (no cost to user)
  - "User Selectable" levels – capabilities individual customers are willing to pay in addition to obtain

NC FCB Capability Areas	
Coverage	Protection
NetOps	Portability
Flexibility/ Optimization	Responsiveness
Capacity	Net Ready (Interoperability)



THE JOINT STAFF
WASHINGTON, DC

Reply ZIP Code:
20318-0300

30 July 2008

MEMORANDUM FOR: ASST SECRETARY OF DEFENSE, NETWORKS & INFORMATION INTEGRATION
DIRECTOR, DEFENSE INFORMATION SYSTEMS AGENCY

Subject: Net-Centric Functional Capabilities Board Endorsement of Revised Department of Defense Commercial Satellite Communications Capabilities

1. The Net-Centric Functional Capability Board (NC FCB) met on 10 July 2008 and reviewed the USSTRATCOM Commercial Satellite Communications (COMSATCOM) Capabilities Update. The FCB endorsed the results and recommendations.

2. The NC FCB-endorsed COMSATCOM Capabilities have been under contract since 2007. However, for future COMSATCOM services acquisition beyond current contract expiration dates to provide a foundation for the 2010 timeframe and beyond, these COMSATCOM capabilities must be revised to support future warfighter needs. The NC FCB endorses the revised capabilities and the addition of the Net-Ready capability.

3. The NC FCB point of contact is Ms Ann Birdsall, (703) 571-9846, birdsaey@pentagon.mil or birdsaey@js.pentagon.smil.mil.

E-signed by JCS
USAPP authenticity with Approved

MICHAEL J. BASLA
Brigadier General, USAF
Vice Director for Command, Control, Communications and Computer Systems

Capabilities endorsed by Joint Staff J6 on 30 July 2008

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July 2008 Revalidated COMSATCOM

NC FCB Capability Area	Associated Floors/User-Selectable Enhancements
Coverage	Floor: C-, Ku, Ka, and X bands worldwide, with a minimum between latitudes of 70/70, subject to availability/geometry Selectable: User-defined coverage, negotiated up front
NetOps	Floor: Near-real-time monitoring, fault/incident reporting, and information access to ensure effective and efficient operations; performance, and availability consistent with commercial best practices Selectable: User-defined reporting negotiated up front
Flexibility/ Optimization	Floor: Regrooming for space segment and earth terminal/teleport resources for spectral, operational, and price efficiencies selectable on user request Selectable: Specific terms negotiated up front
Capacity	Floor: Ability to acquire COMSATCOM services as needed Selectable: Ability to scale managed service subscription capacity as needed within pre-defined limits (As much as possible, service capacity and coverage limits will be determined in advance)
Protection	Floor: SAT Ops clearances; OPSEC clearances; TT&C encryption on command link; electromagnetic interference (EMI)/ radio frequency interference (RFI) geolocation Selectable: User-defined reporting negotiated up front
Portability	Floor: Global portability, subject to availability and negotiation Selectable: Specific terms negotiated up front
Responsiveness	Floor: Service available ≤ 30 days from award (does not necessarily include HNA and long-lead terrestrial connectivity) Selectable: Time-critical requirements 7 days, 4 hours
Net Ready (Interoperabili	Floor: Services provided consistent with commercial/industry standards and/or best practices

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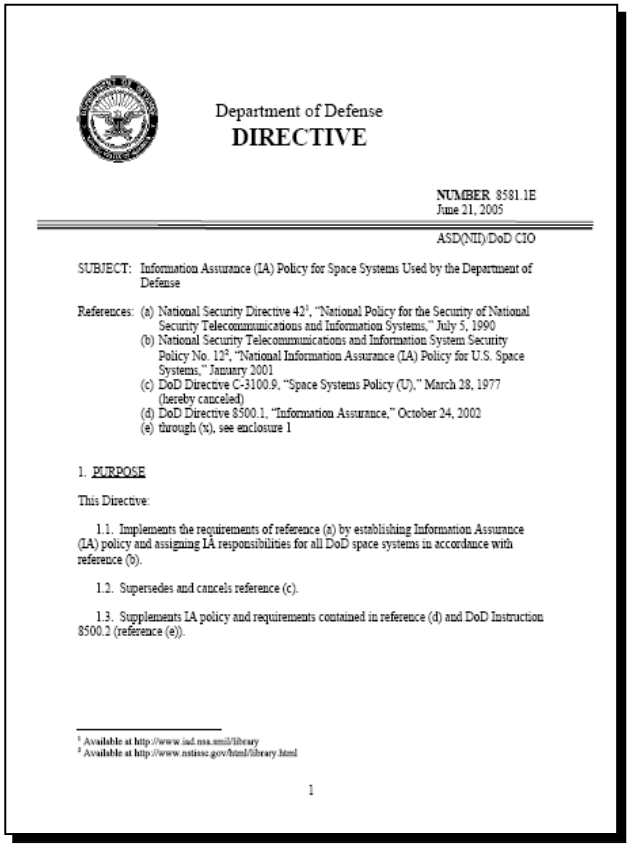
Protection Requirements on DSTS-G

- DODD 8581.1E mandates IA for space
  - Based on Mission Assurance Category levels
  - MAC I and MAC II call for NSA-approved TT&C encryption
  - MAC III calls for commercial best practices
  - Security controls for ground systems
- DISA has developed a process to evaluate IA compliance and identify the best value solution for given mission MAC level
- DISA executed a "trial period" where four different task orders were evaluated using new process
  - Results to date:
    - Showed no perceptible impact to cost or schedule
    - Provided better insights into the IA posture of COMSATCOM services
- IA compliance evaluation conducted for new task orders and re-competes



Department of Defense
DIRECTIVE

NUMBER 8581.1E
June 21, 2005

ASD(NII)/DoD CIO

SUBJECT: Information Assurance (IA) Policy for Space Systems Used by the Department of Defense

References: (a) National Security Directive 42[1], "National Policy for the Security of National Security Telecommunications and Information Systems," July 5, 1990
(b) National Security Telecommunications and Information System Security Policy No. 12[2], "National Information Assurance (IA) Policy for U.S. Space Systems," January 2001
(c) DoD Directive C-3100.9, "Space Systems Policy (U)," March 28, 1977 (hereby canceled)
(d) DoD Directive 8500.1, "Information Assurance," October 24, 2002
(e) through (x), see enclosure 1

1. PURPOSE

This Directive:

1.1. Implements the requirements of reference (a) by establishing Information Assurance (IA) policy and assigning IA responsibilities for all DoD space systems in accordance with reference (b).

1.2. Supersedes and cancels reference (c).

1.3. Supplements IA policy and requirements contained in reference (d) and DoD Instruction 8500.2 (reference (e)).

[1] Available at http://www.iad.nsa.smil/library
[2] Available at http://www.nstissc.gov/html/library.html

1

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DoD Commercial SATCOM Initiatives

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BGAN Direct Connect

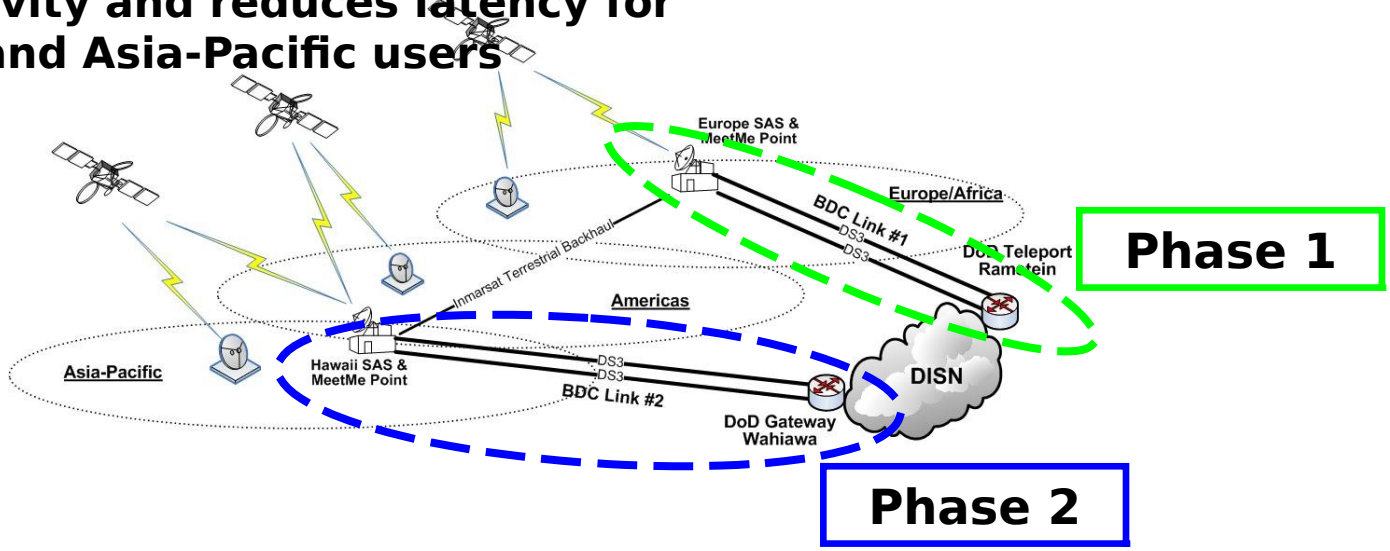
Description

BGAN Direct Connect (BDC) provides access to SIPRNet and NIPRNet via BGAN terminals

- **Phase 1 (Europe) provides DISN connection to BGAN users globally via Europe**
- **Phase 2 (Hawaii) provides redundant connectivity and reduces latency for CONUS and Asia-Pacific users**

Status

- **Phase 1 available Sep ’09**
- **Phase 2 available FY10**



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IRIS JCTD

- **FY07-09 IRIS Joint Capability Technology Demonstration (JCTD)**
  - **3 year JCTD to assess operational utility of IRIS technology**
  - **Transition: DISA (IRIS JCTD Transition Manager) will provide a contract vehicle to enable DoD use of IRIS on a fee for service basis**
- **Internet Protocol Routing In Space (IRIS) payload**
  - **Hosted on Intelsat-14 (IS-14)**
  - **Onboard router/Linkway hub functions**
  - **100% commercial owned**
  - **Launch (est): 4QFY09**
  - **2 Ku transponders (S.A./N.Atl.)**
  - **1 C transponder (W. Hemisphere)**

Completed IRIS JCTD Milestones	
Implementation Directive	**signed Jan '07**
Management Plan	**signed Jul'07**
Operational Demo 1 MIT-LL emulation	**Jul '07**
Transition Plan	**signed Nov '07**
Operational Demo 2 USCG supported	

Upcoming IRIS JCTD Milestones	
Operational Demo 3 (NC3A supported simulation)	**3QFY'09**
IS-14 launch	**4QFY09**
Operational Demo 4 (JIATF-S: live on-orbit demo)	**1Q-2QFY10**
IRIS available for DoD	

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Mission Assurance Working Group

Objective

To provide an on-going forum for DoD and the commercial satellite communications (SATCOM) industry to discuss potential improvements to policies, programs and processes for enhanced mission assurance of SATCOM services used in support of the Department of Defense and U.S. national security interests.

Efforts

- **Compliance of DoD commercial SATCOM services with warfighter requirements for Protection and NetOps**
- **Sharing and protection of critical infrastructure information**
  - **Between and among U.S. government and U.S. industry**
  - **With operators and authorities in allied and friendly nations.**
- **Operational planning for collaborative preparedness and incident response**
- **Sustain sovereign rights of space-based U.S. and allied SATCOM systems**

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DoD Commercial SATCOM Future Considerations

Considerations for the Future

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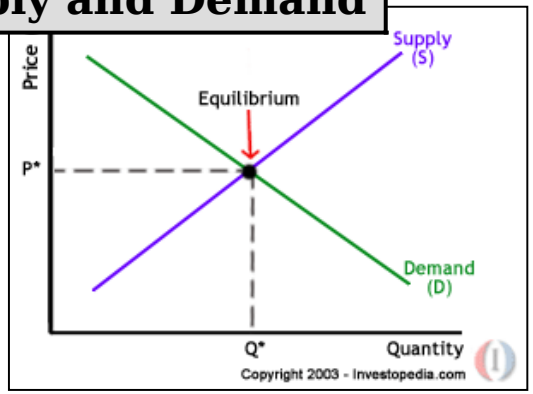
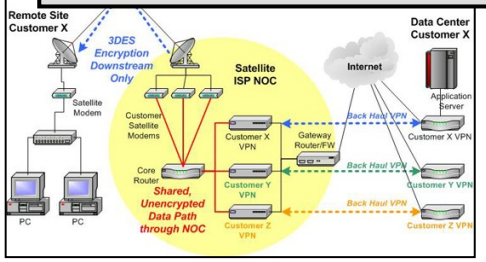
Supply and Demand



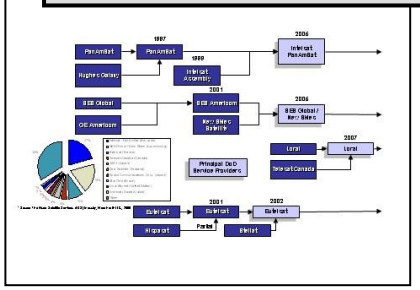
Industry Desires

Technology Trends

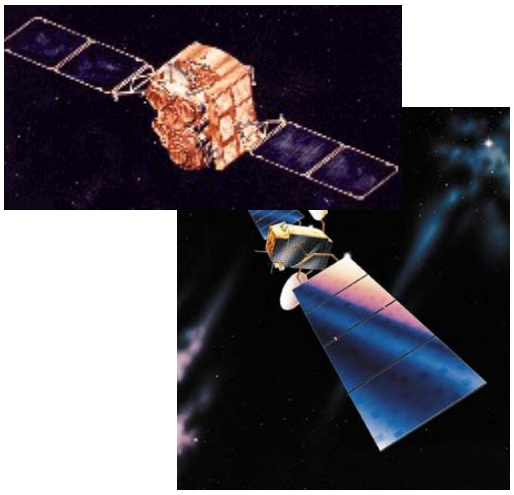


Customer Requirements

Industry Trends



Military vs Commercial



Law and Policy

Funding

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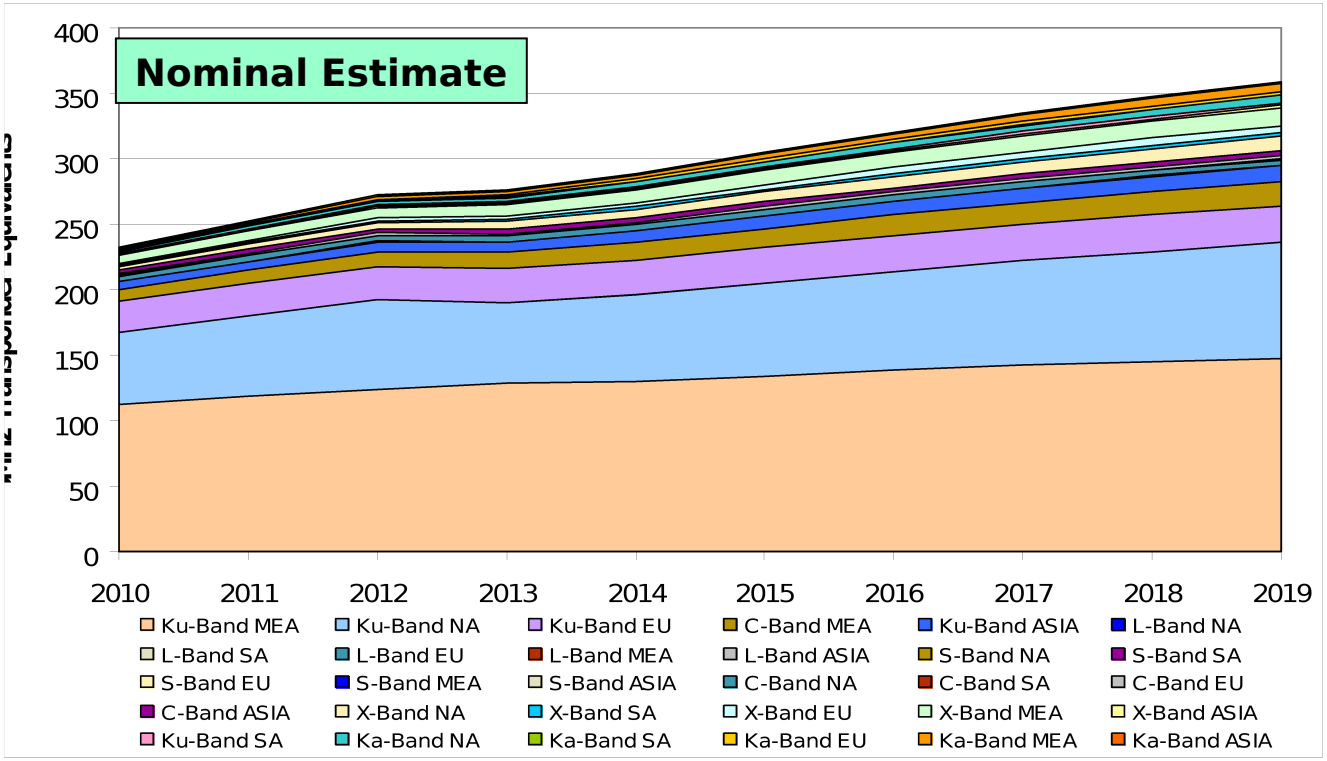
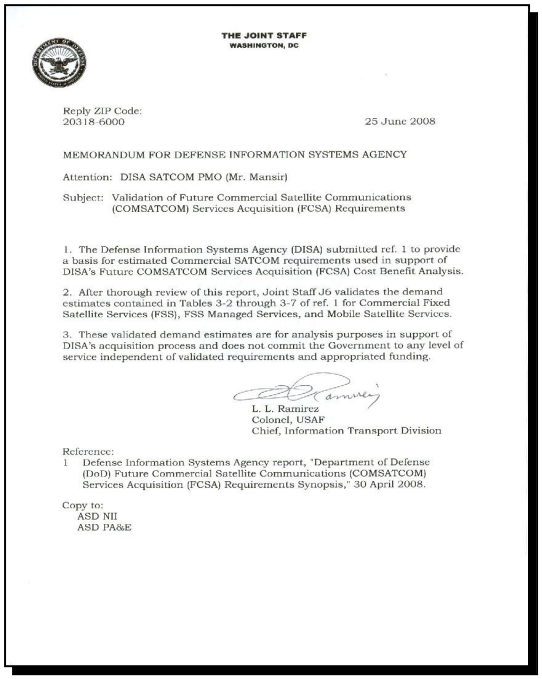
Projected DoD Transponded Commercial SATCOM Demand

- **In June 2008, the Joint Staff formally endorsed a requirements synopsis for planning purposes**





THE JOINT STAFF
WASHINGTON, DC

Reply ZIP Code:
20318-6000

25 June 2008

MEMORANDUM FOR DEFENSE INFORMATION SYSTEMS AGENCY

Attention: DISA SATCOM PMO (Mr. Mansir)

Subject: Validation of Future Commercial Satellite Communications (COMSATCOM) Services Acquisition (FCSA) Requirements

1. The Defense Information Systems Agency (DISA) submitted ref. 1 to provide a basis for estimated Commercial SATCOM requirements used in support of DISA's Future COMSATCOM Services Acquisition (FCSA) Cost Benefit Analysis.

2. After thorough review of this report, Joint Staff J6 validates the demand estimates contained in Tables 3-2 through 3-7 of ref. 1 for Commercial Fixed Satellite Services (FSS), FSS Managed Services, and Mobile Satellite Services.

3. These validated demand estimates are for analysis purposes in support of DISA's acquisition process and does not commit the Government to any level of service independent of validated requirements and appropriated funding.

L. L. Ramirez
Colonel, USAF
Chief, Information Transport Division

Reference:
1 Defense Information Systems Agency report, "Department of Defense (DoD) Future Commercial Satellite Communications (COMSATCOM) Services Acquisition (FCSA) Requirements Synopsis," 30 April 2008.

Copy to:
ASD NII
ASD PA&E

Requirements endorsed by Joint Staff J6 on 25 June 2008

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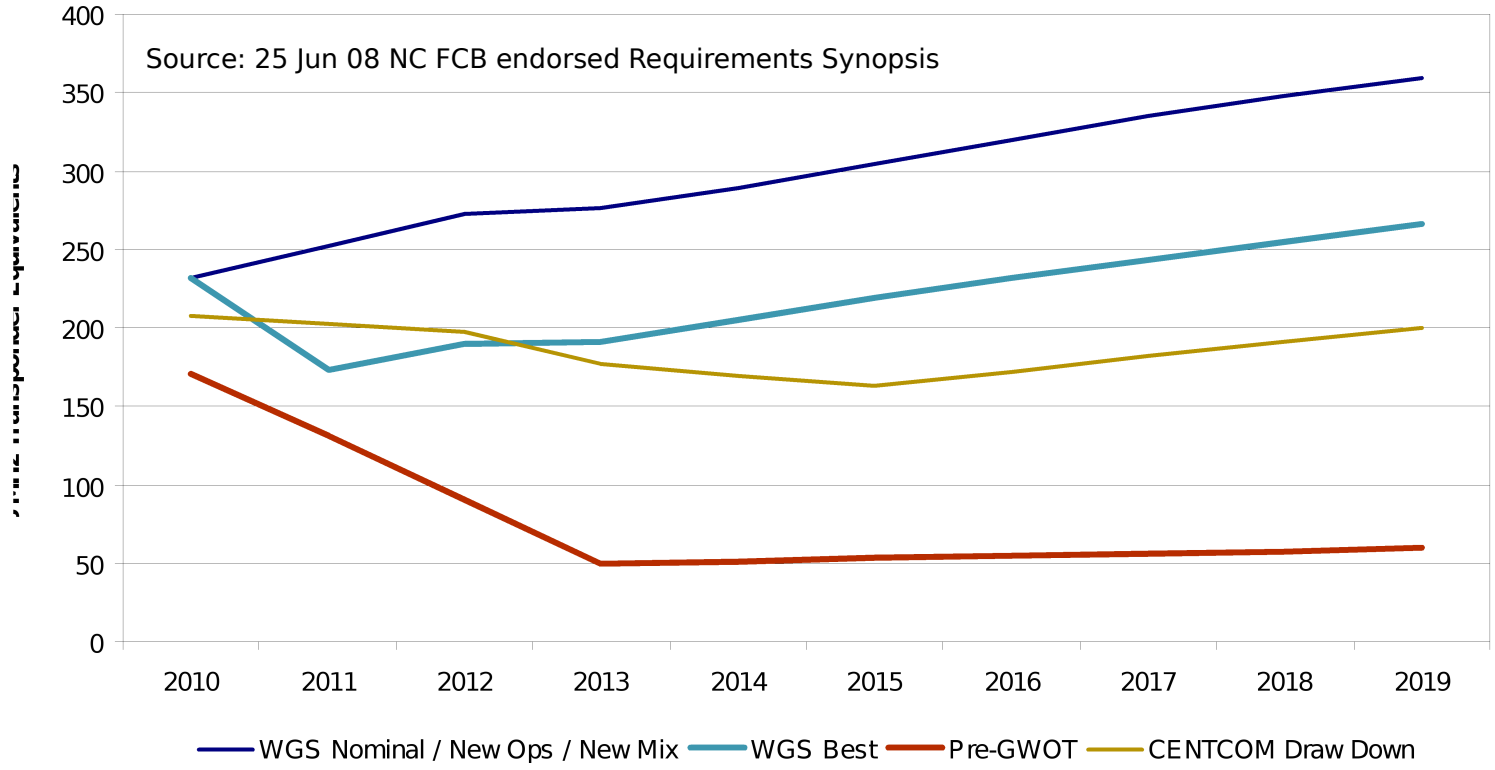
WGS impacts on DoD Commercial SATCOM Use



- **Nominal-case and best-case Wideband Global SATCOM (WGS) migration***
- **Reductions in requirements to pre-GWOT level**
- **Draw down in FSS demand in the Middle East / Africa region due to transition from COMSATCOM to terrestrial based services and/or reduced military ops**

* WGS offloading based on six satellite program of record at time of analysis

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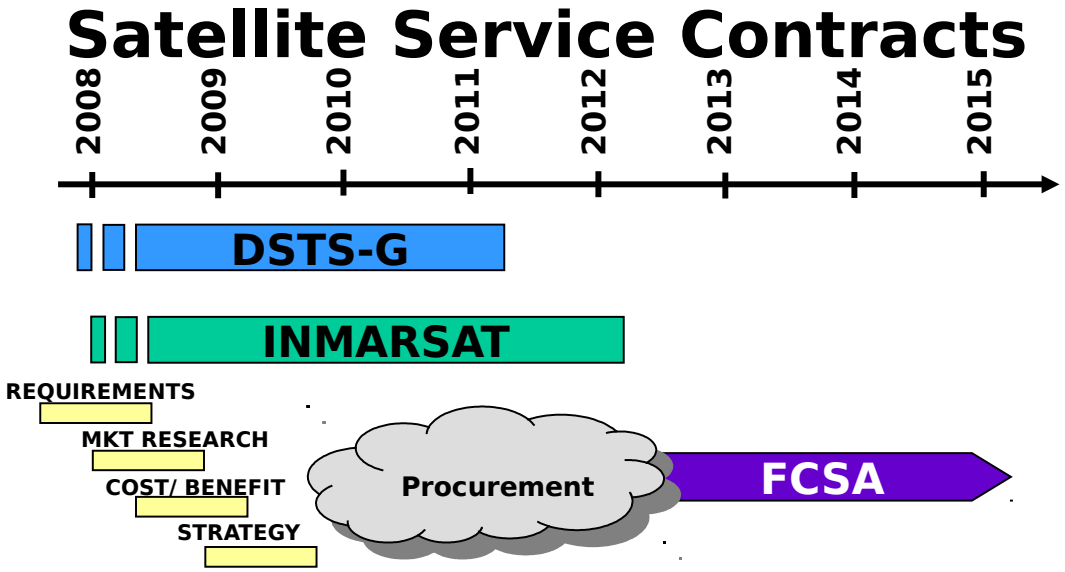
Future COMSATCOM Services Acquisition



FCSA: Future COMSATCOM Services Acquistion

Objectives

- Satisfy revalidated Joint Staff capabilities
- Provide Warfighters with a flexible, best value mechanism
- Takes advantage of future industry and user trends
- Achieve successful contract transition – 1-yr overlap

DEFENSE INFORMATION SYSTEMS AGENCY

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Backup